

WHAT IS CLAIMED IS:

1. A method of forming a package substrate, the method comprising:
  - providing sheets of substrate layers;
  - forming metalized patterns on at least one of said sheets;
  - laminating said sheets to form said package substrate, said sheets shaped to provide a substrate having a cavity, said cavity having a floor defining a reference plane, wherein said layers are shaped to expose limited regions of said reference plane outside said cavity; and
  - separating said laminated sheets to form individual package substrates.
2. The method of Claim 1, wherein said laminating said sheets comprises laminating said sheets to form said package substrate, said sheets shaped to provide a substrate having a cavity surrounded by a substrate wall, said cavity having a floor defining a reference plane, wherein said sheets are shaped to expose regions of said reference plane outside said substrate wall.
3. The method of Claim 1, wherein said laminating said sheets comprises laminating said sheets to form said package substrate, said sheets shaped to expose regions of said reference plane to a top surface of said package substrate.
4. The method of Claim 1, wherein said laminating said sheets comprises laminating said sheets to form said package substrate, said sheets shaped to expose regions of said reference plane to a bottom surface of said package substrate.
5. The method of Claim 1, said forming metalized patterns on at least one of said sheets comprising forming metalized patterns on at least one of said sheets to provide electrical connection between said cavity and an external surface of said package substrate.

6. The method of Claim 1, said providing substrate sheets comprising:  
providing ceramic substrate sheets.
7. The method of Claim 1, said providing substrate sheets comprising:  
providing plastic substrate sheets.
8. A method of packaging a semiconductor device, the method comprising:  
/ providing a package substrate, said package substrate having a cavity, said cavity having a floor defining a reference plane, surface regions of said reference plane exposed outside said cavity;  
attaching a semiconductor device in said cavity of said package substrate;  
attaching a lid to said package substrate to enclose said device in said cavity.
9. The method of Claim 8, said providing a package substrate comprising:  
providing a package substrate, said regions of said reference plane exposed outside said cavity to a top surface of said package.
10. The method of Claim 8, said providing a package substrate comprising:  
providing a package substrate, said regions of said reference plane exposed to a bottom surface of said package.
11. The method of Claim 8, said attaching a semiconductor device comprising:  
attaching an electro-optical device in said cavity.
12. The method of Claim 8, said attaching a semiconductor device comprising:  
attaching a micromirror device in said cavity.
13. A method of aligning a display system, the method comprising:  
/ providing positioning structures defining a display system reference plane;

aligning a micromirror package with said display system reference plane, said micromirror package having a reference plane defined by regions on a common plane, a micromirror attached to at least one of said regions, said alignment of said micromirror package accomplished by placing at least two of said regions defining said reference plane against said positioning structures;

positioning illumination optics relative to said display system reference plane; and

positioning projection optics relative to said display system reference plane.

14. The method of Claim 13, wherein said illumination optics comprises a prism, said aligning a micromirror package and said positioning illumination optics comprising:

positioning said micromirror package against a mount, said mount contacting said regions on said micromirror package reference plane; and

positioning said prism against said mount.

15. A method of aligning an optical system, the method comprising: /

providing positioning structures defining an optical system reference plane;

aligning a optical device package with said optical system reference plane, said optical device package having a reference plane defined by regions on a common plane, an optical device attached to at least one of said regions, said alignment of said optical device package accomplished by placing at least two of said regions defining said reference plane against said positioning structures; and

positioning optics relative to said optical system reference plane.

16. A package substrate, comprising:

a bottom surface;

a top surface opposing said bottom surface;

a cavity open to said top surface, said cavity having a floor defining a reference plane; and

regions outside said cavity exposing a discrete portions of a surface of said reference plane.

17. The package substrate of Claim 16, wherein said regions outside said cavity expose a surface of said reference plane from a top side.
18. The package substrate of Claim 16, wherein said regions outside said cavity expose a surface of said reference plane from a bottom side.
19. The package substrate of Claim 16, said package substrate formed of a laminated series of layers, said regions formed by voids in said layers on one side of said reference plane.
20. The package substrate of Claim 16, said package substrate formed of a laminated series of layers, said cavity and said regions formed by voids in said layers on a top side of said reference plane.
21. The package substrate of Claim 16, said package substrate formed of a laminated series of layers, said cavity and said regions formed by voids in said layers on a bottom side of said reference plane.

22. A packaged semiconductor device, comprising:

a package substrate, said package substrate having a cavity, said cavity having a floor defining a reference plane, discrete regions of said reference plane exposed outside said cavity;

a semiconductor device in said cavity of said package substrate;

a lid attached to said package substrate enclosing said device in said cavity.

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23. The packaged semiconductor device of Claim 22, wherein said regions outside said cavity expose a surface of said reference plane from a top side.
24. The packaged semiconductor device of Claim 22, wherein said regions outside said cavity expose a surface of said reference plane from a bottom side.
25. The packaged semiconductor device of Claim 22, said package substrate formed of a laminated series of layers, said regions formed by voids in said layers on one side of said reference plane.
26. The packaged semiconductor device of Claim 22, said package substrate formed of a laminated series of layers, said cavity and said regions formed by voids in said layers on a top side of said reference plane.
27. The packaged semiconductor device of Claim 22, said package substrate formed of a laminated series of layers, said cavity and said regions formed by voids in said layers on a bottom side of said reference plane.
28. The packaged semiconductor device of Claim 22, said semiconductor device being an electro-optical device.
29. The packaged semiconductor device of Claim 22, said semiconductor device being a micromirror device.
30. A display system, comprising: /
  - positioning structures defining a display system reference plane;
  - a spatial light modulator package having a reference plane defined by discrete regions on a common plane, a spatial light modulator attached to at least one of said regions, at least two of said regions of said spatial light modulator package against said positioning structures;

illumination optics positioned relative to said display system reference plane; and  
projection optics positioned relative to said display system reference plane.

31. The display system of Claim 30, said illumination optics comprising a prism, further comprising:  
a mount contacting said regions on said spatial light modulator package reference plane and said prism.
32. The display system of Claim 30, said positioning structures connected to a system chassis, wherein said illumination optics and said projection optics are positioned relative to said display chassis.
33. The display system of Claim 30, said positioning structures comprising structured formed in said system chassis, wherein said illumination optics and said projection optics are positioned relative to said display chassis.
34. The display system of Claim 30, said positioning structures comprising structured formed in said system chassis, wherein said illumination optics and said projection optics are positioned relative to preformed features in said display chassis.
35. The display system of Claim 30, said spatial light modulator being a micromirror device.
36. The display system of Claim 30, said spatial light modulator being a liquid crystal on silicon device.

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